

AMENDMENTS TO THE CLAIMS:

1. (Currently Amended) An interbody fusion spacer, comprising:
an elongated generally cylindrical body having a first end wall, a second end wall, ~~an outer surface defining threaded bone engaging portions~~ and a side wall ~~connecting said first end and said second end, said body cooperating to define~~ an interior chamber, said first and second end walls formed integral with said side wall;
at least one of said first end wall and said second end wall having an end wall discontinuity;
a side wall discontinuity extending along a length of said body aligned with the end wall discontinuity and configured for nesting with an adjacent spacer; and
said side wall discontinuity defining a side wall opening to said interior chamber ~~in a side of said elongated body~~.
2. (Original) The spacer of claim 1 wherein said body is comprised of metal.
- 3.-4. (Cancelled)
5. (Currently Amended) The spacer of claim 1, wherein said side wall defines a plurality of openings therethrough for bone ingrowth extending ~~from said outer surface~~ into said ~~internal~~ interior chamber.
6. (Currently Amended) The spacer of claim 1, wherein one of said ends walls ~~comprises a tool engaging end defining~~ a tool engaging hole for receiving a driving tool for implanting the spacer.
7. (Previously Presented) The spacer of claim 1, further comprising an osteogenic material disposed within said chamber.

8. (Original) The spacer of claim 7, wherein said osteogenic material comprises demineralized bone, a calcium phosphate material, a bioceramic, bioglass, an osteoinductive factor and mixtures thereof.

9. (Original) The spacer of claim 1, wherein said side wall opening is defined by a side wall discontinuity in said side wall that extends over at least about 10% of the circumference of said body but not exceeding about 50% of the circumference of said body.

10. (Original) The spacer of claim 9, wherein said side wall discontinuity extends over at least about 20% of the circumference of said body but not exceeding about 40% of the circumference of said body.

11. (Original) The spacer of claim 1, wherein said side wall opening is defined by a side wall discontinuity that extends over at least about 50% of the length of said body.

12. (Original) The spacer of claim 1, wherein said side wall discontinuity extends over at least about 80% of the length of said body.

13. (Currently Amended) ~~The spacer of claim 1,~~ An interbody fusion spacer,
comprising:
an elongated generally cylindrical body having a first end, a second end and a side wall
connecting said first end and said second end, said body defining an interior chamber;
a side wall discontinuity extending along a length of said body and configured for nesting
with an adjacent spacer; and
said side wall discontinuity defining a side wall opening to said interior chamber; and
wherein said side wall opening is sized to extend along at least about 50% of said length
of said body to allow passage of osteogenic material into said interior cavity chamber.

14. (Original) The spacer of claim 1, wherein said end wall discontinuity defines a concave surface.

15. (Original) The spacer of claim 1, wherein said end wall discontinuity is configured for nesting with an adjacent spacer.

16. (Cancelled)

17. (Currently Amended) The spacer of claim 1, having wherein each of said first and second end walls defines a concave end wall discontinuity ~~at each of said first and second ends,~~ and wherein each of said ~~ends~~ concave end wall discontinuities is configured to receive an outer convex surface of an adjacent spacer.

18. (Currently Amended) The spacer of claim 1, wherein each of said ends walls are configured for nesting with an adjacent spacer to form a spacer assembly having a width less than the sum of the combined maximum diameters of said spacers.

19. (Cancelled)

20. (Currently Amended) An interbody fusion implant system, comprising:
~~a first interbody fusion spacer having a first elongated body having a first end, a second end, an outer surface defining external threads and a side wall connecting said first end and said second end, said elongated body defining an interior cavity;~~
~~at least one of said first end and said second end having a discontinuity configured for nesting with an adjacent spacer, said side wall defining an opening to said interior cavity in a side of said elongated body, said opening configured for loading said interior cavity with an osteogenic material; and~~
the interbody fusion spacer of claim 1; and

a second interbody fusion spacer having a second elongated body, ~~said second elongated body having a third end, a fourth end, a second outer surface and a second side wall connecting said first end and said second end, said second interbody fusion spacer~~ nested within said side wall discontinuity of the first interbody fusion spacer of claim 1.

21.-33. (Cancelled)

34. (Currently Amended) An interbody fusion implant system, comprising:

a first interbody fusion spacer having an first elongated body, said ~~first elongated body~~ having a circumference with external threads, a first end defining a first end wall, a second end defining a second end wall, ~~a first outer surface and a first side wall connecting~~ formed integral with said first end wall and said second end wall and, ~~said first elongated body defining an first interior cavity, at least one of said end walls having a discontinuity configured for nesting with an adjacent spacer, said discontinuity extending along a length of said body and into said side wall, said discontinuity in said side wall defining an opening in communication with said first interior cavity, said side wall having said discontinuity and said end wall having said discontinuity both extending about said circumference of said body to substantially the same extent; and~~

a second interbody fusion spacer ~~having a second elongated body, said second elongated body having a third end, a fourth end, a second outer surface and a second side wall connecting said third end and said fourth end, said second interbody fusion spacer~~ nested within said discontinuity defined by said first interbody fusion spacer.

35. (Currently Amended) The implant system of claim 34, wherein at least one of ~~said ends of~~ said first interbody fusion spacer and said second interbody fusion spacer comprise a tool engaging end defining a tool engaging hole for receiving a driving tool for implanting the spacers.

36. (Original) The implant system of claim 34, wherein said first interbody fusion spacer and said second interbody fusion spacer are comprised of metal.

37. (Currently Amended) The implant system of claim 34, wherein said first elongated body has a first plurality of openings for bone ingrowth extending ~~from said first outer surface~~ into said ~~first internal~~ interior cavity;

38.-45. (Cancelled)

46. (Currently Amended) A method of promoting fusion bone growth in the space between adjacent vertebrae, comprising:

(a) providing a first interbody fusion spacer having an ~~first~~ elongated, cylindrical body, said ~~first~~ elongated body having a circumference with external threads, a first end defining a first end wall, a second end defining a second end wall, ~~a first outer surface~~ and a ~~first~~ side wall ~~connecting~~ formed integral with said first end wall and said second end wall and, ~~said first elongated body~~ defining an ~~first~~ interior cavity, at least one of said end walls having a discontinuity ~~configured for nesting with an adjacent spacer, said discontinuity~~ extending along a length of said body and into said side wall, said discontinuity in said side wall defining an opening in communication with said ~~first~~ interior cavity, said side wall having said discontinuity and said end wall having said discontinuity both extend about said circumference of said body to substantially the same extent;

(b) preparing said adjacent vertebrae to receive the elongated body in an intervertebral space between adjacent vertebrae;

(c) placing the first elongated body into the intervertebral space; and

(d) implanting a second spacer into the intervertebral space orientated to nest with said discontinuity defined by the first spacer.

47. (Original) The method of claim 46, further comprising packing osteogenic material into said interior cavity of said first spacer prior to the placing step.

48.-49. (Cancelled)

50. (Previously Presented) The method of claim 46, wherein said first and second interbody fusion spacers are comprised of metal.

51. (Currently Amended) The method of claim ~~50~~ 46, wherein said ~~first~~ elongated body has a first plurality of openings for bone ingrowth extending from ~~said first~~ an outer surface of said first spacer and into said interior cavity.

52. (Currently Amended) An interbody fusion spacer, comprising:
an elongate, generally cylindrical body having external threads and comprised of metal and having end walls and a side wall extending between said end walls, said side wall and said end walls defining an interior chamber, said side wall ~~further~~ defining an a main side wall opening configured to extend along at least about 50% of the length of said body for passage of osteogenic material into said interior chamber, said side wall further defining a plurality of secondary side wall openings communicating with said interior chamber for bone ingrowth into said interior chamber;

said end walls each having an external profile comprising a first portion defining an arc of a circle, said arc extending from 180° to 324° around the circle; ~~and~~ said external profile also comprising a second portion defining a concave surface ~~and an~~ with said main side wall opening extending through ~~in~~ said concave surface ~~providing and into~~ communication with said interior chamber;

said side wall having an external profile defining an arc of a circle, said arc extending from 180° to 324° around the circle and aligned with the arc defined by said end walls.

53. (Cancelled)

54. (Currently Amended) The interbody fusion spacer of claim 52, wherein said end walls are formed integral with said side walls.

55. (Cancelled)

56. (Currently Amended) The interbody fusion spacer of ~~any of~~ claims 52, wherein said side walls ~~have~~ has surface features for resisting expulsion from an intervertebral space.

57. (Cancelled)

58. (Cancelled)

59. (New) The spacer of claim 1, wherein said elongated body has an outer surface defining threaded bone engaging portions.

60. (New) The spacer of claim 1, wherein each of said first and second end walls are fixed and non-removable relative to said elongated body.

61. (New) The spacer of claim 1, wherein each of said first and second end walls defines an end wall discontinuity aligned with said side wall discontinuity.

62. (New) The spacer of claim 13, wherein said elongated body has an outer surface defining threaded bone engaging portions.

63. (New) The spacer of claim 13, wherein said first end comprises a first end wall, said second end comprising a second end wall, each of said first and second end walls cooperating with said side wall to define said interior chamber.

64. (New) The spacer of claim 63, wherein each of said first and second end walls are formed integral with said side wall.

65. (New) The spacer of claim 63, wherein each of said first and second end walls are fixed and non-removable relative to said elongated body.

66. (New) The spacer of claim 63, wherein at least one of said first and second end walls defines an end wall discontinuity aligned with said side wall discontinuity.

67. (New) The spacer of claim 66, wherein said end wall discontinuity defines a concave surface that is configured for nesting with an adjacent spacer.

68. (New) The spacer of claim 13, further comprising an osteogenic material disposed within said interior chamber.

69. (New) The spacer of claim 13, wherein said side wall defines a plurality of openings therethrough for bone ingrowth extending into said interior chamber.

70. (New) The spacer of claim 13, wherein said side wall discontinuity extends over at least about 80% of said length of said body.

71. (New) The spacer of claim 34, wherein each of said first and second end walls are fixed and non-removable relative to said elongated body.

72. (New) The spacer of claim 34, wherein said end wall discontinuity defines a concave surface that is configured for nesting with said second interbody fusion spacer.

73. (New) The spacer of claim 34, wherein said side wall opening is sized to extend along at least about 50% of said length of said body to allow passage of osteogenic material into

said interior cavity.

74. (New) The spacer of claim 73, further comprising an osteogenic material disposed within said chamber.

75. (New) The spacer of claim 52, wherein said plurality of secondary side wall openings extends through said external threads and into communication with said interior chamber.

76. (New) A method of promoting fusion bone growth in a space between adjacent vertebrae, comprising:

(a) providing a first interbody fusion spacer including an elongated body having a first end, a second end and a side wall connecting the first end and the second end, the body defining an interior chamber, a side wall discontinuity extending along a length of the body and defining a side wall opening communicating with the interior chamber, the side wall opening sized to extend along at least about 50% of the length of the body to allow passage of osteogenic material into the interior chamber;

(b) providing a second interbody fusion spacer configured for nesting with the side wall discontinuity of the first spacer;

(c) preparing the space between the adjacent vertebrae to receive the elongated body of the first spacer;

(d) placing the first spacer into the prepared space; and

(e) implanting the second spacer into the space and orientated to nest with the side wall discontinuity of the first spacer.

77. (New) The method of claim 76, further comprising packing osteogenic material into the interior chamber of the first spacer.

78. (New) The method of claim 77, wherein the packing of the osteogenic material

into the interior chamber of the first spacer occurs prior to the placing of the first spacer into the prepared space.

79. (New) The method of claim 76, wherein the first end defines a first end wall, the second end defining a second end wall, the first and second end walls and the side wall cooperating to define the interior chamber, the first and second end walls formed integral with the side wall such that the first and second end walls are fixed and non-removable relative to the elongated body.

80. (New) A method of promoting fusion bone growth in a space between adjacent vertebrae, comprising:

(a) providing a first interbody fusion spacer including an elongated body having a first end wall, a second end wall, and a side wall cooperating to define an interior chamber, the first and second end walls formed integral with the side wall such that the first and second end walls are fixed and non-removable relative to the elongated body, at least one of the first end wall and the second end wall having an end wall discontinuity, a side wall discontinuity extending along a length of the body aligned with the end wall discontinuity and configured for nesting with an adjacent spacer, the side wall discontinuity defining a side wall opening to the interior chamber;

(b) providing a second interbody fusion spacer configured for nesting with the side wall discontinuity of the first spacer;

(c) preparing the space between the adjacent vertebrae to receive the elongated body of the first spacer;

(d) placing the first spacer into the prepared space; and

(e) implanting the second spacer into the space and orientated to nest with the side wall discontinuity of the first spacer.

81. (New) The method of claim 80, wherein the side wall opening is sized to extend along at least about 50% of the length of the body to allow passage of osteogenic material into

the interior chamber.

82. (New) The method of claim 81, further comprising packing osteogenic material into the interior chamber of the first spacer.